Amendments to the Specification:

Please replace the paragraph at page 1, beginning on line 12 with the following amended paragraph:

--The minimum resolvable structure width of an exposure tool projection system for transferring a pattern structured on a mask onto a semiconductor wafer being coated with a resist given by the term ~~0,25 · λ/NA~~ 0.25 · λ/NA can theoretically be achieved by employing a full set of litho-enhancement techniques. In the formula, λ is the wavelength of the illuminating light and NA is the numerical aperture of the pupil plane, or the object lens system, respectively. The coefficient ~~k1 = 0,25~~ k1 = 0.25 is particularly challenging, and the techniques are either not yet appropriately matured or operate only under restricted conditions, e.g., for certain patterns on the mask--.

Please replace the paragraph at page 1, beginning on line 20, and ending on page 3, line 6, with the following amended paragraph:

--Typical exposure tools operate with ~~k1 = 0,4~~ k1 = 0.4 for simple periodic lines-and-spaces patterns. A most promising candidate for imaging down the minimum structure width to ~~0,3 · λ/NA~~ 0.3 · λ/NA derives from the use of alternating phase-shift masks. While not yet in a production status, this kind of mask enhances the resolution capability of a projection system in combination with the lines-and-spaces patterns. E.g., chrome lines are alternatingly separated by spaces having two opposite degrees of phase-shift, which is exerted on the light, that traverses the mask to expose the wafer. The alternating degree of phase-shift considerably enhances the amount of structure contrast--.

Please replace the paragraph at page 5, beginning on line 19, with the following amended paragraph:

--For example, a 5 % transmission in terms of power of light would necessitate an area of the second portion being roughly 4 – 5 (square root of factor 20) times larger than the first portion, which is considered to reveal zero attenuation. 5 % transmission in terms of power of

light corresponds to its square root of ~~22,36 %~~ 22.36 % transmission of the electrical field strength--.

Please replace the paragraph at page 6, beginning on line 1, with the following amended paragraph:

-- Since in the case of dense structuring both structures, i.e., portions, would require large pattern sizes, low transition half-tone phase-shift masks would be comparatively ineffective with the present invention. Therefore, the present invention becomes particularly advantageous in the case of high-transition phase-shift masks, e.g., with attenuations larger than [[0,5]] 0.5--.

Please replace the paragraph at page 8, beginning on line 16, with the following amended paragraph:

--In the projection, a different optical path length of these portions alters the phase of the electrical field 40 with respect to conventional chrome-on-glass masks as shown in Fig. 2. This feature leads to a frequency doubling due to vanishing zero order diffraction 20 in the frequency space. The amplitude of the first diffraction orders 21 can be calculated to ~~2,83/2π~~ 2.83/2π--.

Please replace the paragraph at page 8, beginning on line 21, and ending on page 9, line 3, with the following amended paragraph:

--There is no frequency doubling for chrome-on-glass masks (COG-masks) or conventional attenuated phase-shift masks (HTPSM). Therefore, the Fourier spectra contain a zero diffraction order and the amplitude of the first harmonic is generally calculated to 2/2π for chrome-on-glass masks and, e.g., to ~~2,49/2π~~ 2.49/2π for attenuated phase-shift masks with 6 % transmission. Obviously, alternating phase-shift masks (APSM) provide a superior contrast as compared with COG-masks or HTPSM--.

Please replace the paragraph at page 9, beginning on line 15, with the following amended paragraph:

–In the diagram of Fig. 4, the first order harmonic amplitudes of a HTPSM being structured with a simple lines-and-spaces pattern are given as a function of transmission, as compared with the corresponding values for APSM ~~(2,83/2π),~~ (2.83/2π), chromeless PSM ~~(4,00/2π)~~ (4.00/2π) and conventionally structured 6 % HTPSM ~~(2,49/2π)~~ (2.49/2π). For a transmission of an electrical field strength 40 of 47 %, i.e., already a high-transition PSM, the first order harmonic becomes better than 6 % HTPSM, and for 56 % even the amplitude of an APSM is exceeded–.

Please replace the paragraph at beginning at page 10, line 17, and ending at page 11, line 13 with the following amended paragraph:

–In another embodiment, a mask 1 including a matrix of patterns 3 each made of just one contact hole 301, is given in Fig. 6. The relative positions in this embodiment are therefore grid-structured as compared to the diagonal structure of Fig. 5. The contact hole size is chosen to 180 nm × 180 nm at the design stage to give a surface area of the first fully transparent portion 101 of ~~32.400 nm²~~ 32,400 nm^2. The surrounding semitransparent second portion 102 of this HTPSM comprises ~~127.600 nm²~~ 127,600 nm^2. The transmission, which fulfils the condition according to the present invention, therefore amounts to roughly [[25,4 %]] 25.4 % counted as electrical field strength transmission. The ordinarily provided power of light transmission of the corresponding HTPSM is then about [[6,4 %]] 6.4 %. As can easily be inferred from Fig. 4 even more advantageous embodiments of high transition HTPSM, e.g., transmission of electrical light larger than 45 %, offer a larger contrast through larger first order harmonics. An electrical field transmission of [[25,4 %]] 25.4 % corresponds to an attenuation of [[74,6 %]] 74.6 %, giving the value

$$\cancel{(x-1) = 1,746}$$

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in Fig. 4 on the x-axis. The first order amplitude amounts to roughly ~~3,2/2π...3,3/2π~~ 3.2/2π...3.3/2π, which is better than those values for conventional HTPSM or APSM. In the case of no attenuation, i.e.,

$$(x-1) = 2$$

the curve in Fig. 4 approaches to the chromeless PSM case. Nevertheless, the diagram of Fig. 4 is for the case of lines-and-spaces patterns--.